

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings of claims in the application:

Listing of Claims:

1. (Previously presented) A device for sensing and characterizing particles by the Coulter principle, said apparatus comprising:

(a) a conduit that is formed at least in part from poly(dimethylsiloxane), through which a liquid suspension of particles to be sensed and characterized can be made to pass, wherein said conduit has an effective electrical impedance which is changed with the passage of each particle therethrough and wherein the conduit has a cross-sectional area of less than about $1\mu\text{m}^2$ and a length of less than about $10\mu\text{m}$;

(b) a liquid-handling system for causing said liquid suspension of particles to pass through said conduit; and

(c) a measurement system for sensing the change of electrical impedance in said conduit, wherein the measurement system comprises a four-point electrode system having two inner electrodes and two outer electrodes, wherein the inner electrodes are positioned external to the conduit.

2. (Previously presented) The device of claim 1, wherein said liquid-handling system comprises two reservoirs linked by said conduit.

3. (Currently Amended) A device for sensing and characterizing particles by the Coulter principle, said apparatus comprising:

(a) a conduit that is formed at least in part from poly(dimethylsiloxane), through which a liquid suspension of particles to be sensed and characterized can be made to pass, wherein said conduit has an effective electrical impedance which is changed with the passage of each particle therethrough and wherein the conduit has a cross-sectional area of less than about $1\mu\text{m}^2$ and a length, in the direction of the passage of the particles, of between about 0.1 and about 50 micrometers;